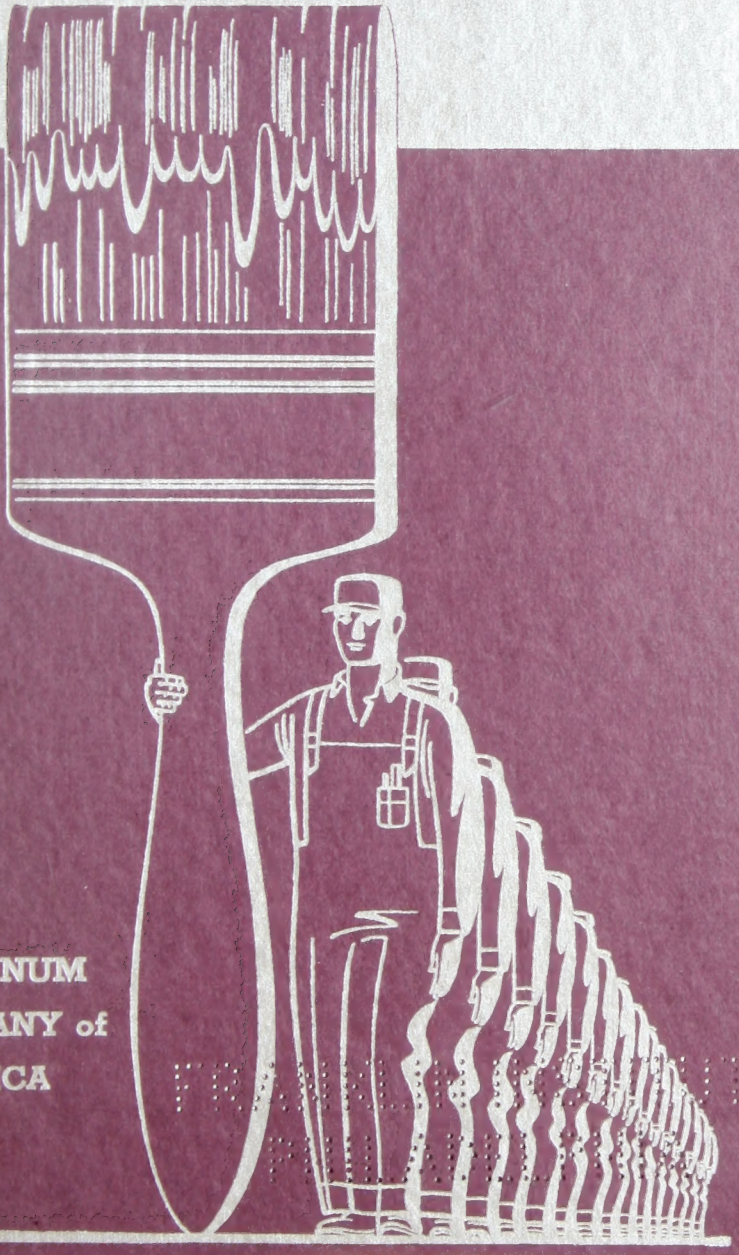
15 years behind the Brush



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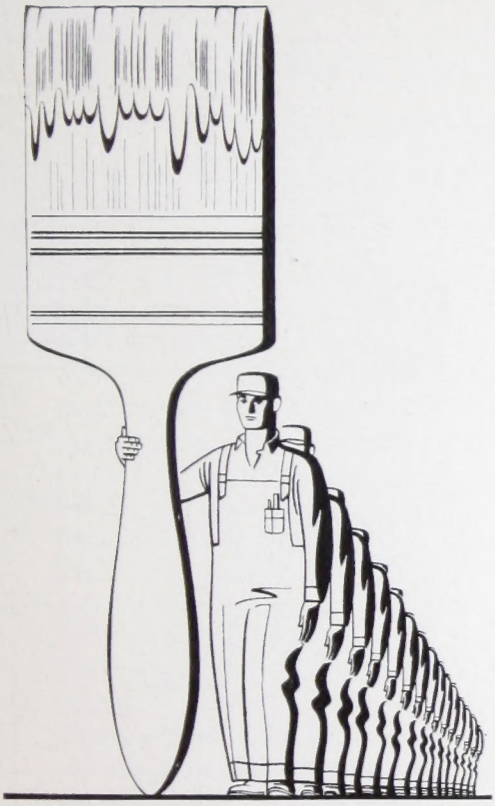

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PITTSBURGH, PA.

ALBRON

ALUMINUM HOUSE PAINT DIFFERS FROM ALL OTHER ALUMINUM PAINTS

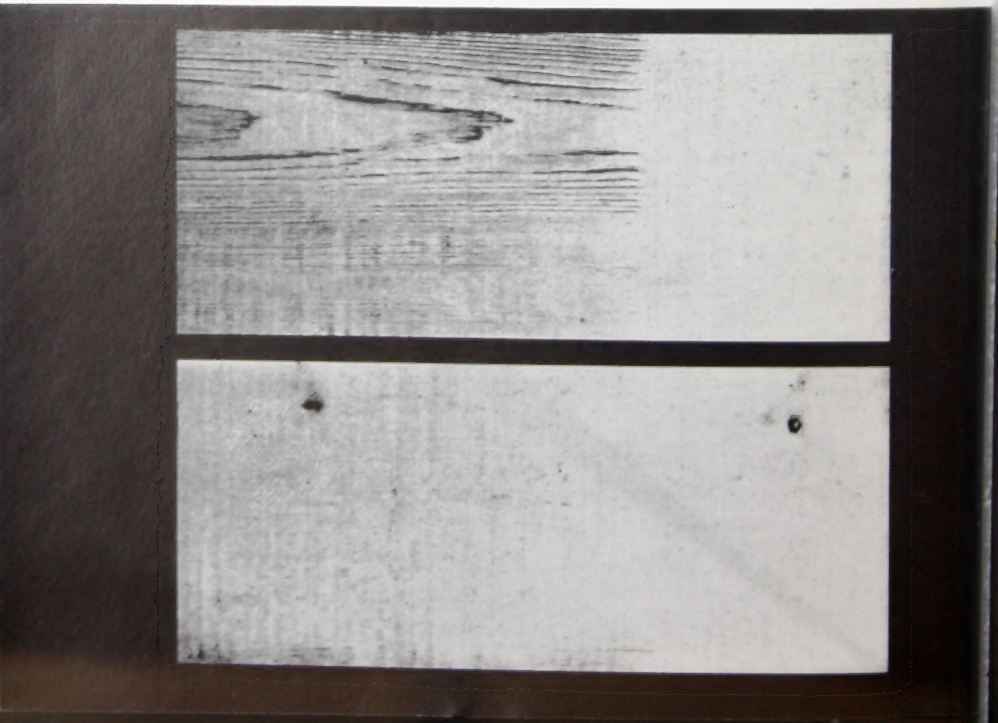
There is a right kind of aluminum paint for wood, and unfortunately there are many wrong kinds. The search for the right kind began during the World War when Government chemists of the United States Forest Products Laboratory at Madison, Wis., discovered the unusual wood protecting merits of the then little-known aluminum pigments and began looking around for the oil or vehicle that would give the desired results. Other laboratories joined in this investigation. Many formulas and types were tested and rejected. For instance, an aluminum paint which had been entirely satisfactory and had given outstanding protection when used on bridges, oil tanks, metal roofs and other hard surfaces proved wholly inadequate when used on wood, failing to adhere to and protect it. But some aluminum paints proved much better than others. It was noticed that one kind, in test after test on laboratory panels and on actual houses, gave consistently superior performance. It outlasted all the other kinds of aluminum paint, but it did more than this. It proved to be head and shoulders above every kind of pigmented house paint then on the market. Continued research and testing have improved it and made it suitable for use under more widely different conditions. After 15 years of unceasing effort, this new but time-proved product, with a new and distinctive name, is made available as Aluminum House Paint.

The difference between Aluminum House Paint and other types of aluminum paints lies chiefly in the properties of the drying oils and resins used in making the paint and in the much greater elasticity of the dried films. A fact some home owners have failed to appreciate is that the proved advantages of aluminum paint on wood are realized only

when the paint is one designed strictly for lumber priming. The paint film must be elastic so that it will not be broken by the expansion and contraction of the wood; it must be well bodied, so that a film of sufficient thickness will be applied; and it must be suited to the peculiarities of wood surfaces.

The Aluminum House Paint formula does take into consideration all the peculiar properties of wood surfaces. In the preparation of the vehicle there have been none of the compromises and modifications made which are necessary in the usual so-called "general-purpose" aluminum paints. While such "all-purpose" paints are sometimes recommended for use on wood, it will be safer to specify or buy Aluminum House Paint first coater. Figure 1 definitely demonstrates this fact.

Figure 1. *The difference in durability on wood between Aluminum House Paint (bottom panel) and a good quality general-purpose aluminum paint (top panel) is shown by these two painted Yellow Pine boards exposed to the weather for four years. The general-purpose paint was not elastic and tough enough to withstand the shrinking and swelling of the wood surface.*



ALUMINUM HOUSE PAINT DIFFERS FROM OTHER PRIMING PAINTS

Sunlight, rain, wind, and rapid temperature variations are ceaseless in their efforts to break down house paint coatings. The necessary cost to the home owner of periodic renewal of these coatings represents a substantial tax on his investment. By lengthening the time between repaintings the burden of such an important item of maintenance can be greatly reduced. It has been well established that this desirable result is secured through the use of Aluminum House Paint and two high quality house paint topcoats.

Aluminum House Paint is a recognized superior primer for lumber chiefly because the fine aluminum flakes that make up its pigment act to protect the long-lived vehicle and give permanence to its initial high moisture proofing properties and elasticity.

The metal flakes of the aluminum pigment protect the vehicle because they "leaf"; that is, they are arranged in more or less parallel overlapping layers like shingles on a roof or like a pile of tree leaves. Figure 2 which is a highly magnified cross section of an Aluminum House Paint film shows this arrangement clearly. The surface layer of metal particles, assisted by the underlying layers keeps sunlight from attacking the binder and helps the vehicle to retain its original elasticity. These same flakes reduce the passage of moisture through the film by forcing it to follow a long round-about path in order to reach the wood surface.

The pigments in other types of wood primers are granular and because they transmit and absorb sunlight, these pigments are distinctly less protective to their vehicle binder. (See Figure 3.) Granular pigments because of their shape offer less obstruction to moisture. For this reason, paints

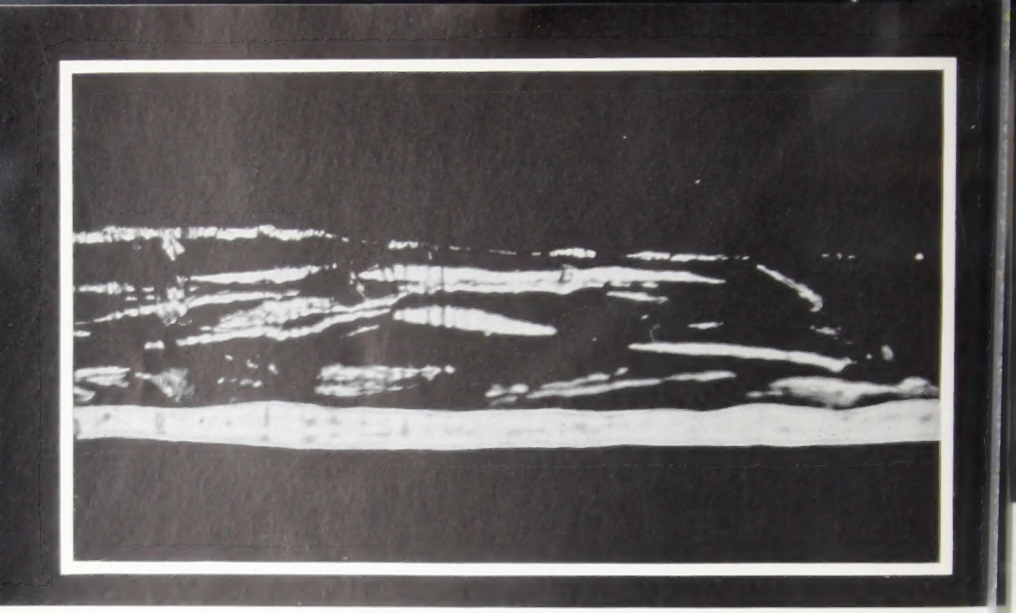
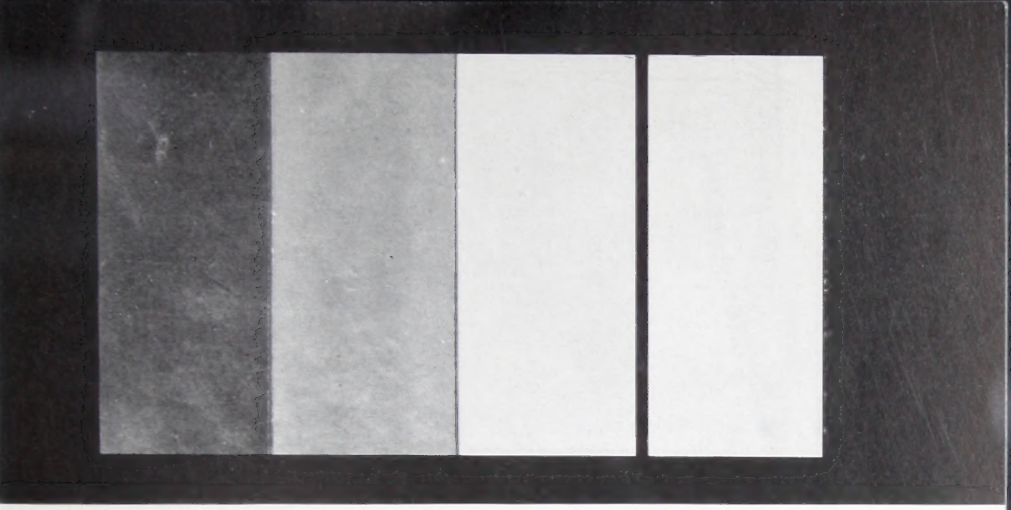


Figure 2. *Highly magnified cross-section of an aluminum paint film showing how the metal pigment flakes arrange themselves in more or less parallel layers that make water vapor follow a long around about path in penetrating through the film. The thin line at the top is the "leafed" surface of metal flakes. The heavy line at the bottom of the film is the surface on which the paint was applied. The dark area between flakes is the vehicle.*

containing them will possess a lower efficiency. Similarly it is common knowledge that a pile of gravel may be wet through much more quickly than a pile of tree leaves.

The comparative *initial* moisture resistance of aluminum paint and other coatings that are frequently used on wood is shown in Figure 4. This comparison is based on data obtained by the Forest Products Laboratory in its studies on the use of paint in the protection of wood.

A coating to be effective must possess other properties besides high initial moisture resistance. It must maintain this essential characteristic through long years of exposure. The actinic rays of the sun penetrate through the more or less transparent pigments of ordinary primers and destroy by chemical action the flexibility and cohesion of the bind-

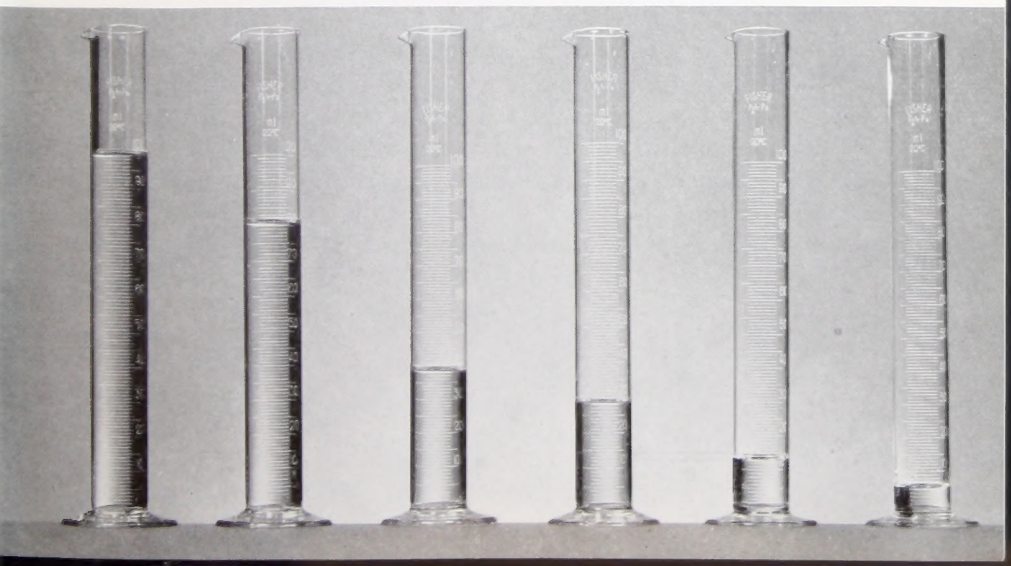


1 COAT WHITE PT. | 3 COATS WHITE PT. | 5 COATS WHITE PT. | 1 COAT ALUMINUM PT.

Figure 3. *Comparative resistance of a paint coating to the passage of sunlight is demonstrated by exposing photographic paper to this light after it has passed through the paint film applied on a glass panel. The* more *sunlight that passes through the coating the darker it makes the photograph. Note that it takes five coats of white paint to equal one coat of Aluminum House Paint in excluding light while one and three coats of white paint are much less effective.*

Figure 4. *A visualization of the comparative amounts of water absorbed by wood test panels painted with various coatings. The panels were exposed to 95 per cent humidity at 80°F. for a period of two weeks.*

UNTREATED WOOD | LINSEED OIL | SPAR VARNISH | WHITE PAINT | SHELLAC | ALUMINUM PAINT



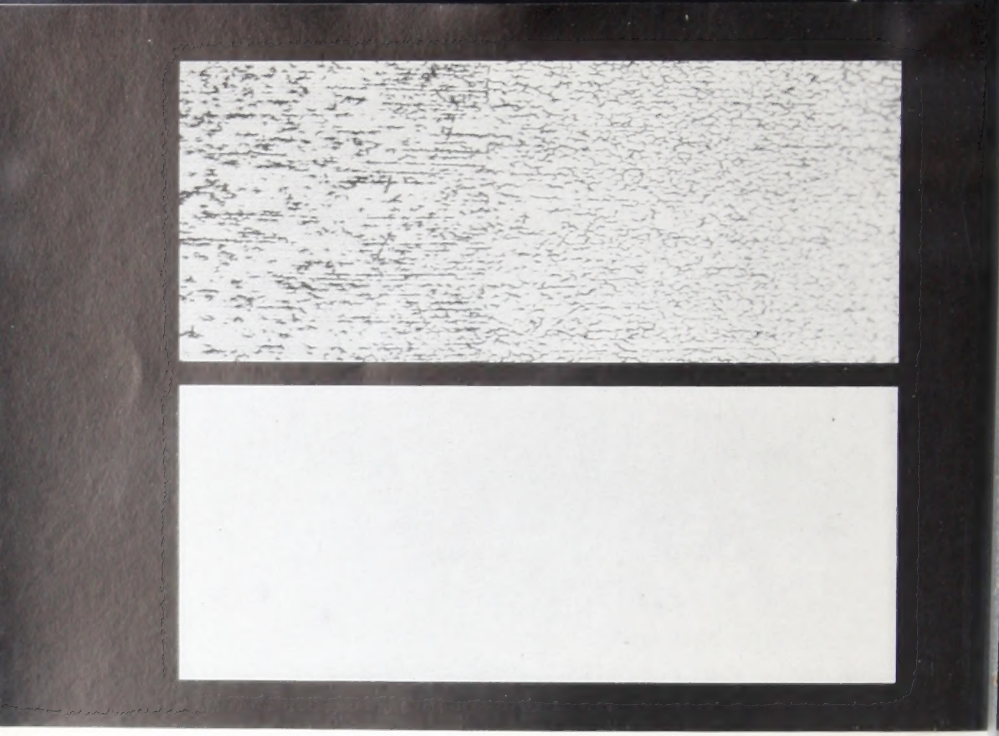


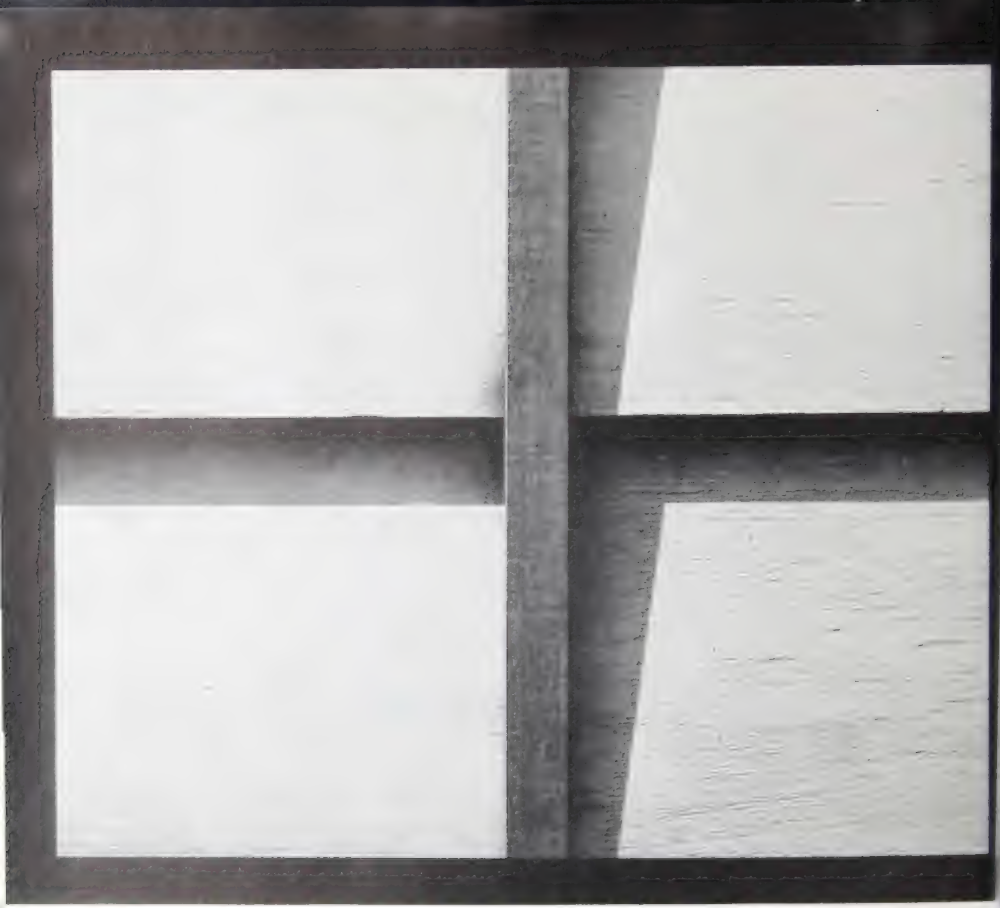
Figure 5. *Two steel panels exposed to intense southern sunlight at Houston, Texas. The aluminum painted panel (bottom) has resisted the action of sunlight and is free from cracks and breaks. The other panel coated with a high grade white house paint deteriorated by checking and cracking because the sunlight destroyed its elasticity.*

er. Such a paint film chalks, cracks, and crumbles into a dust that has no moisture resistance.

But Aluminum House Paint films are not so affected. The vehicle is originally elastic and remains that way for long periods because it is shielded and protected by the successive layers of the metal flakes of aluminum pigment. Sunlight naturally must eventually take its toll on Aluminum House Paint, but the breaking down process, as you can see from Figure 5, is much slower and nowhere near so complete.

The durability shown by Aluminum House Paint first coater extends to topcoat paints applied over this deeply

anchored foundation. These topcoats cling tightly to the slightly uneven metal-like surface and last longer, because the oil in the topcoats is not absorbed by the wood and undercoat. These facts have been proved consistently on thousands of houses, as well as in laboratories, over the last 15 years. The pictures shown in Figures 6 to 11 are indicative of the differences in topcoat life on different woods where Aluminum House Paint first coater was used on test panels of house siding in comparison with an ordinary primer, exposed under the same conditions. Figure 12 is a typical example, among many, of the results obtainable with Aluminum House Paint on homes.



Topcoats Over

ALUMINUM HOUSE PAINT

Retain Good Appearance Longer

★

Figure 6. *Comparative results with Aluminum House Paint first coater on edge-grain Red Cedar siding after four years' exposure. The section on the left was primed with aluminum and the section on the right was primed with highest quality white house paint. The same house paint was used for the two topcoats on both sections. This kind of lumber is considered one of the best as regards paint holding characteristics.*

ALUMINUM HOUSE PAINT

First Coater Lengthens

Time Between Repainting

★

Figure 7. *The section of Redwood siding on the right after four years' exposure is ready for repainting. It was originally painted with three coats of high quality white house paint. The aluminum primed section on the left with the same two white topcoats will not require repainting for at least a year.*

Increased Durability of Topcoats
Results From Use of ALUMINUM
HOUSE PAINT First Coater

★

Figure 8. After four years' exposure on Douglas Fir Aluminum House Paint with two good topcoats is still in excellent condition showing no evidence of paint flaking or grain raising. The three coat white job at right is typical of the way ordinary paint fails on this kind of lumber.

The ALUMINUM HOUSE PAINT
System Retards Wood Weathering

★

Figure 9. *On woods difficult to protect Aluminum House Paint is the most efficient first coater that can be used because its long lasting moisture proofing qualities and elasticity practically eliminate wood checking and cracking. Compare the aluminum primer system on left with three coats of white paint on right after four years' exposure on Spruce siding.*

Topcoats Over
ALUMINUM HOUSE PAINT
Wear Away Uniformly

★

Figure 10. *On Ponderosa Pine three coats of good quality white house paint (right section) after four years' exposure failed to adhere to the dark grain of "summer wood" and flaking has occurred in these areas. The left hand section is painted with aluminum and the same two white topcoats. This paint system remained firmly anchored to the summer wood bands and is still intact.*

The ALUMINUM HOUSE PAINT System
Reduces Repainting Costs

★

Figure 11. *The cost of repainting the aluminum primed Southern Yellow Pine siding at the left will be less than for the same lumber primed with white paint shown on right. The two white topcoats over the aluminum first coater, after four years' exposure, are still adhering firmly and present a good surface for repainting. The same two white topcoats over the white primer will require an expensive cleaning operation and the lumber will have to be reprimed.*

Figure 12. *The aluminum priming coat with its two white topcoats on the Yellow Pine siding of this house are still in excellent condition after 4½ years' exposure to intense southern sunshine and the moisture laden atmosphere of the Gulf Coast region.*

THE ECONOMY OF THE ALUMINUM HOUSE PAINT SYSTEM

Comparisons of cost between different painting systems cannot be made on the initial expenditure alone. They must be based first on the length of time before repainting becomes necessary and second on the difference in cost of the repainting work—which includes the all important cleaning operation.

Based on these factors painting costs are lowest when Aluminum House Paint is used as a primer with two quality topcoats. This truth holds good even when comparisons are made with the two-coat jobs being widely publicized.

As has been clearly demonstrated, topcoats last longer, weather more uniformly over Aluminum House Paint. The time between needed repaintings is substantially lengthened and surface preparation held to a minimum. These facts alone save the home owner real money on his maintenance work.

But further, Aluminum House Paint in a single coat without the assistance of any topcoats will outlast two coats of ordinary paint. (See Figure 13.) Thus, even long after topcoats have weathered away, Aluminum House Paint first coater still continues to protect the lumber and offers a good surface for repainting. Then when repainting time does come around, only a two-coat job is required to restore the original appearance. Repriming should not be necessary, for the life of Aluminum House Paint extends through successive repaintings.

On the other hand a two coat job (Figure 14) might possibly fail in such a way as to make necessary complete removal of the old paint by burning or extensive scraping and scratchbrushing. The cost of this labor could be easily

Figure 13a. *One coat of Aluminum House Paint on Yellow Pine lumber still offering protection after seven years' exposure on the south side of a frame building in North Carolina.*

Figure 13b. *Two coats of white house paint on Yellow Pine lumber after four years' exposure on a house in Mobile, Ala., have lost their protective qualities allowing the wood to weather.*

as much as the price of one full coat of paint. Often, too, a two coat paint job not only loses its decorative qualities quickly, but also fails to protect the wood surface from weathering. It costs a lot of money to go from board to board puttying up deep checks and cracks. It costs even more to replace the warped and weather-damaged siding or window frames with new. When all this is added to the limited life of two-coat work, the initial attractive saving becomes an unprofitable extravagance.

Three coats of *any* paint is the minimum requirement for good protection and reasonably long life. A three coat white paint job is naturally a better buy than any two coat white work. The owner of a building who specifies the Aluminum House Paint system (Figures 6 to 12) can be confident he is obtaining from his contractor a quality paint job that is the best that money can buy—a job that over a six or eight year period is by far the most economical. This system is intended only for those who must have the best. The owner who wishes to protect his investment can afford no less.

Figure 14. *Much work will be necessary to put the surface of this building in condition to receive new paint coatings. The failure of this two coat job indicated here occurred in less than four years.*

WHERE TO USE THE ALUMINUM HOUSE PAINT SYSTEM

Aluminum House Paint first coater is an outstandingly durable primer and will produce the desired results when properly used in accordance with good painting practice.

Its use is of course recommended on all kinds of new lumber. It is especially recommended for those woods that present some paint holding difficulties, such as Yellow Pine, Douglas Fir, Ponderosa Pine, Spruce, and Hemlock.

The Aluminum House Paint system is widely used for repainting lumber on which the old coatings have been worn away. (See Figure 15.) The aluminum first coat will restore a surface where the wood grain is clearly visible through the old paint and where the wood has begun to weather, showing cracks and checks and a roughening of the surface fibers. With this new restored surface, it is then possible to secure a quality finish by the use of two topcoats of ordinary house paint.

The Aluminum House Paint system is about the only one that can be used on creosote stained shingles, where light-colored topcoats are desired. (See Figure 16.) The leafed flakes of the aluminum pigment, so effective in excluding sunlight and moisture, also serve in this case to prevent the stain from "bleeding" into topcoats and discoloring them. The chemical action of creosote does not affect the high durability of the aluminum primer, and long years of paint life are assured.

The presence of knots in lumber is often a cause of early paint failure or discoloration of the finish coats. (See Figure 17.) A recommended procedure for minimizing the effect of knots is first to apply Aluminum House Paint and, when it is dry, coat the knot area with a good quality white shellac before the topcoats are put on. It is important that

Figure 15. *An Aluminum House Paint first coater is needed where the old paint has weathered sufficiently to expose the wood grain.*

Figure 16. *To prevent discoloration of light colored paints over creosote stained shingles, because of stain "bleeding", apply Aluminum House Paint first coater and after one week's drying time follow by any two topcoats of light colored paint.*

Figure 17. *Knots in lumber are in effect end grain exposed in the face of the board. They are frequently saturated with pitch and oil soluble resins. Consequently, they give difficulty with paint adhesion and paint discoloration. A coat of Aluminum House Paint followed by white shellac on the knot area only has often proved effective in eliminating any trouble.*

the shellac never be applied directly to the wood because it is too brittle and may lead to flaking of the entire coating at the knot area.

Under some adverse conditions no paint will give satisfaction until the sources of the difficulty are discovered and corrected. Where a paint coating has failed by the blistering and peeling of large areas, the trouble often is not with the kind of paint used, or the grade of lumber. (See Figure 18.) It is probably caused by moisture coming through the lumber from the underside. No paint should be put on until the source of the moisture is found and eliminated by a competent carpenter or roofer. After this is done, the edges of the peeled areas should be sanded smooth and a touch-

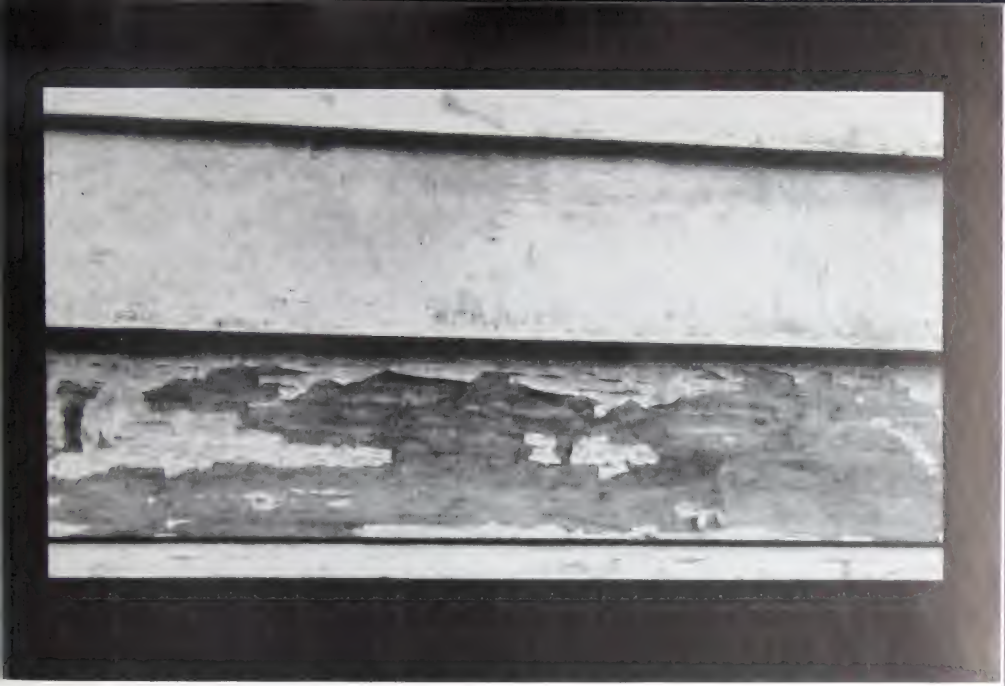


Figure 18. *When paint on lumber has failed by localized areas blistering and peeling while the remainder of the job is in good condition the difficulty is probably caused by moisture coming from behind the siding and saturating it. Do not use Aluminum House Paint or any paint on such surfaces until the condition that caused the difficulty has been corrected.*

up coat of Aluminum House Paint first coater applied to the exposed wood. Two good topcoats can then be put over the entire job.

Common causes of premature paint failure characterized by localized blistering and peeling are defective flashing and gutters, lack of caulking around window and door frames, dormers or chimneys. Moisture in the siding may also come from condensation of water vapor from the interior of the house. Water in the basement, newly plastered walls, gas fires used without proper flues, humidifying devices used to increase water vapor in the air, and insufficient ventilation of attic spaces are all sources of moisture in the siding.

When the paint on a building to be repainted is still

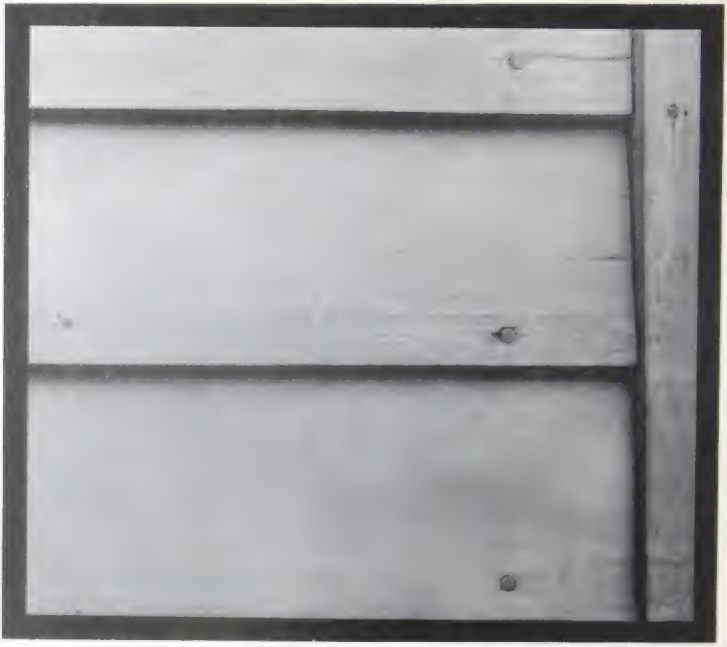


Figure 19. *When the paint on a structure is still sound but requires repainting for the sake of appearance Aluminum House Paint is not necessary.*

sound and no checking of the wood has occurred, it is unnecessary to use an Aluminum House Paint first coater. (See Figure 19.) Two coats of good outside paint will restore the original new appearance and give ample protection. Here is a suggestion. An all-over priming job may not be needed, but the use of Aluminum House Paint on such areas as window sills, water table, and other places of severe exposure will keep the appearance of the house uniform over a longer period.

HOW TO USE THE ALUMINUM HOUSE PAINT SYSTEM

Research and practical experience have developed the one kind of aluminum paint that should always be used for first coating weather exposed lumber—Aluminum House Paint. Over a period of 15 years, it has also been learned that there is only one method to follow in applying the Aluminum House Paint system if its proved advantages are to be obtained. Deviation from this procedure will result in disappointment.

First be certain that the aluminum paint purchased is Aluminum House Paint specifically formulated and recommended for use as a first coater on lumber and is so labeled.

Second, but of equal importance, are the proper preparation of the surface and the state of the weather at the time the work is done. Thorough cleaning, particularly in repaint work, may represent more than half the labor on the job but no satisfaction can result unless this vital operation is correctly done. Paint will not adhere satisfactorily to dirt, grease, or loosely adhering old paint and the necessary steps to remove this foreign matter cannot be omitted. Scratchbrush, dust, and wash or burn if necessary. All cracks and nail holes should be puttied up before painting. The wood surface should be dry. No paint should be put on in wet weather. It is well to wait 12 hours following a hard rain. No painting should be done when the temperature is below 40°F.

When mixing Aluminum House Paint, it must be kept in mind that the formula has been worked out over many years so as to make unnecessary the addition of other ingredients or thinners. The addition of thinner or any other material contrary to directions can only result in lessening the efficiency of the coating. The full amount of the alumi-

num paste pigment must be used since, as has already been pointed out, much of the durability of this primer is dependent on the protective qualities of the opaque metal flakes of the pigment.

Raw linseed oil, turpentine or naphtha should not be used under any circumstances for thinning Aluminum House Paint. When painting badly weathered wood it may be necessary to slightly modify the paint. In this case *boiled* linseed oil may be added in amounts not greater than one-half pint per gallon.

Care in following the directions for mixing as given on the Aluminum House Paint package will assure a better

Figure 20. *Aluminum House Paint is the most durable coating that can be used on lumber. The top panel is two coats of Aluminum House Paint after 6 years' exposure at 45° angle facing south. The bottom panel is three coats of highest quality white house paint after 3 years' exposure to the same weathering conditions.*

aluminum paint that is easier to apply. Be certain that the mixing container is clean and dry. Stir the paint occasionally during application. Always cover with an air-tight lid when not in use to keep out moisture, dirt, and oxygen that will spoil the quality. If only a part of the paint is needed at one time it is important that the same proportion of vehicle and pigment that are present in the original package be used in making up the smaller quantity.

Apply the aluminum paint to the cleaned wood surface with a regular paint brush and brush out to a thin film using minimum pressure and a minimum number of brush strokes. All final brush strokes should be made in the direction and toward the lap of the previously applied paint.

After Aluminum House Paint has been applied, allow not less than 48 hours' drying time before putting on the first topcoat. A longer drying time (up to one week) is desirable if the work permits.

For topcoats use only recognized high quality regular house paint. Apply two coats over the Aluminum House Paint primer, allowing not less than 48 hours' drying time between each coat of paint. The paint for the topcoats should be reduced and applied just as recommended by the manufacturers in the directions given for the use of their paints for second and third coat work. Excessive thinning of topcoats will result in poor hiding and lower durability.

Aluminum House Paint is frequently used in two coat work and left in the aluminum finish. Two coats of Aluminum House Paint have double the life of three coats of other types of high quality house paint even on Yellow Pine. (See Figure 20.)

It is possible to tint the second coat of aluminum paint with other pigments. Practically any colored oil pigment may be used for this purpose though some give more color change than others depending on their tinting strength. To obtain strong tints the proportion of aluminum pigment should be somewhat reduced. The mixed tinted paint should be allowed to stand 48 hours before being applied in order

to secure uniform and consistent results. The tinting pigments should be added to the vehicle and thoroughly incorporated before the vehicle is mixed with the aluminum. A few experiments will give the quantities necessary to obtain the desired effect.

Incidentally the durability of tinted Aluminum House Paint will compare favorably with the untinted paint providing the amount of aluminum pigment is not reduced more than 20 per cent. The permanency of color of these tints is dependent on the resistance to fading of the tinting pigment.

The pigments which have been found to give the best effects are as follows:

Prussian Blue produces a deep blue tint.
Chrome Green produces a green tint.
Chrome Yellow produces a light green tint.
Yellow Ocher produces a light yellow tint.
Carbon Black produces a gun-metal gray.
Lead Carbonate produces a battleship gray.
Spanish Iron Oxide produces a light pink tint.
Toluidine Red produces a rose tint.

ALUMINUM HOUSE PAINT

and the CONTRACTOR PAINTER

The value of the advice, suggestions, and skill of a reputable painting contractor cannot be measured in dollars and cents. Through his experienced help real money will be saved, not counting the elimination of the worry and inconvenience that can so easily occur when a major painting job is undertaken.

You can have confidence in the contractor who specifies Aluminum House Paint as the first coat and who agrees to use only the highest quality topcoats and who will guarantee a full good three-coat job without skimping or short cuts. A very low bidder may hope to take his profit out of the quality of the finished job. But among the other bidders, you will probably find one who goes much further than just applying ordinary paint in the selected colors. This careful contractor will have looked over your building and determined for instance, whether a caulking job around the windows, door frames and gutters is required to prevent water from getting behind the siding and causing premature paint failure. If a caulking job is necessary, he will have included this important item in his total price. He may also indicate the need of minor carpentry repair work that should be done and make this cost a part of the contract. He will have agreed to putty all nail holes, cracks, and other blemishes and to replace the putty in sash where needed. Cracked or broken glass will be replaced as another item of his bid.

As part of his regular service, he will protect shrubbery close to the house with drop cloths. Windows and fixtures will be left clean and free of disfiguring paint droplets. You will be assured that there will be no dirt or trash left behind after the job is completed. The details of the agreement should include a promise to visit the house after the

work is completed to obtain the owner's assurance that everything is satisfactory.

The painting contractor who offers this kind of a service is "worthy of his hire." One who will offer these things voluntarily is certain to deliver them without being watched or pressed to do them. You will find such a man has many satisfied customers who will be glad to recommend him.

Specify the Aluminum House Paint system for your home. Choose a conscientious contractor to apply it. You can then be sure of securing the most durable, long-lasting paint job known, and can be confident that your judgment has been confirmed over the last 15 years by thousands of other home owners.

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